

ABSTRACT

A novel system and method for a network overlay geolocation system operating in a host wireless communication system with repeaters is disclosed. Embodiments of the novel system and method enable a wireless communication system to determine if signals being received by system receivers arrive directly from a target mobile appliance or if the signals are passing through or via a repeater. In an embodiment, the system's repeaters use a co-channel AM Golay Hadamard sequence multiplied by an uplink signal to watermark the repeated signal. The system uses the known AM Golay Hadamard sequences of the repeaters and the waveform of the received uplink signal to detect whether a repeater has operated on the signal and which repeater operated on the uplink signal. Embodiments of the novel system and method provide system management data and can be used to provide more accurate geolocation of mobiles served by repeater stations.